AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Currently amended) An optical waveguide device, comprising,

at least one laser diode; ~~and~~

a buffer layer formed on a substrate; and

at least one ~~highly~~ amorphous film-based ~~high refractive index contrast~~ slab waveguide having a refractive index contrast of at least 0.2% is formed on the buffer layer and coupled to receive light from the at least one laser diode[[,]]

~~wherein the slab waveguide is deposited by biased pulsed DC plasma vapor deposition~~.

2. (Canceled)

3. (Currently amended) The optical waveguide device of claim 1, wherein the slab waveguide ~~is highly optically transparent~~ has an optical transparency exhibiting a light loss of below 0.3 dB/cm.

4. (Currently amended) The optical waveguide device of claim 1, wherein the slab waveguide has a ~~high~~ smooth surface ~~smoothness~~.

5. (Currently amended) The optical waveguide device of claim 1, wherein the ~~high refractive index contrast~~ slab waveguide includes a lens duct.

6. (Original) The optical waveguide device of claim 1, wherein the at least one laser diode comprises a diode array.

7. (Currently amended) The optical waveguide device of claim 1, wherein the ~~high refractive index contrast~~ slab waveguide includes ~~a high refractive index~~ an active waveguide and ~~an intermediate refractive index~~ a passive cladding, wherein the refractive index of the active waveguide is greater than the refractive index of the passive cladding.

8. (Currently amended) The optical waveguide device of claim 7, wherein the ~~high-refractive index contrast~~ slab waveguide is folded in the plane of the slab.

9. (Currently amended) The optical waveguide device of claim 7, wherein the ~~intermediate~~ passive cladding ~~is thick enough in the~~ has a vertical thickness ~~axis~~ sufficient to capture a substantial amount of light emitted from the at least one laser diode.

10. (Currently amended) The optical waveguide device of claim 1, wherein the ~~high-refractive index contrast~~ slab waveguide includes a mode-size converter.

11. (Currently amended) The optical waveguide device of claim 1, wherein the at least one laser diode is a vertical cavity surface emitting laser and the ~~high refractive index contrast~~ slab waveguide is deposited over the vertical cavity surface emitting laser.

12. (Currently amended) The optical waveguide device of claim 1, wherein the ~~high-refractive index contrast~~ slab waveguide includes an array of waveguides.

13. (Currently amended) The optical waveguide device of claim 11, wherein a mode size of an optical beam transmitted by the ~~high refractive index contrast~~ slab waveguide is less than a mode size of an incident optical beam.

14. (Currently amended) The optical waveguide device of claim 12, wherein the ~~high-refractive index contrast~~ slab waveguide includes at least one vertical reverse taper.

15. (Withdrawn) A method of coupling pump light into a gain medium, comprising:

depositing the gain medium by a biased pulsed-DC plasma vapor deposition process;

forming a high refractive index contrast waveguide from the gain medium; and

directing pump light into the high refractive index contrast waveguide.

16. (Withdrawn) The method of claim 15, wherein forming a high refractive index contrast waveguide includes patterning the gain medium.

17. (Withdrawn) The method of claim 16, further including depositing an intermediate refractive index contrast material over the high refractive index contrast waveguide.

18. (Withdrawn) The method of claim 16, wherein patterning the gain medium includes forming a lens duct.

19. (Withdrawn) The method of claim 16, wherein patterning the gain medium includes forming a horizontal taper.

20. (Withdrawn) The method of claim 16, wherein depositing the gain medium includes forming a vertical taper.